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16	431	shut adj down with (node)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 15:40
17	35	shut adj down with (node) same cluster	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 15:40
20	287	shut adj down with (node)	USPAT	2004/08/19 15:41
21	9	shut adj down with (node) with (weight\$3 or value or priority or significance)	USPAT	2004/08/19 15:42
22	2	("6151688").PN.	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 15:42
-	482	dynamic\$8 with priority with (application or program or software)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 10:02
-	106	dynamic\$8 near3 priority near3 (application or program or software)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/18 18:23
-	56	(dynamic\$8 near3 priority near3 (application or program or software)) and ((@ad < "19990528") or (@prad < "19990528") or (@rlad < "19990528"))	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/18 18:23
-	2	("6279032").PN.	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 14:58
-	6	6279032.URPN.	USPAT	2004/08/19 10:02
-	85	(cluster or partition) with node with (vote or status or state or priority or weight) with (application or program or process)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 10:52
-	44	((cluster or partition) with node with (vote or status or state or priority or weight) with (application or program or process)) and ((@ad < "19990528") or (@prad < "19990528") or (@rlad < "19990528"))	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 14:58
-	12	(cluster or partition) with node with (vote or priority or weight) with (application or program)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 10:53
-	14	(cluster or partition) same node with (vote or priority or weight) with (application or program)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 11:03

-	2	(cluster or partition) same (vote or priority or weight) with (application or program) same load adj balanc\$3	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 11:06
-	9	("5852717"   "6098093"   "6119153"   "6178461"   "6185608"   "6253234"   "6332163"   "6377991"   "6480865").PN.	USPAT	2004/08/19 11:05
-	0	6697849.URPN.	USPAT	2004/08/19 11:06
-	2	(cluster or partition) same (vote or priority or weight) with (application or program) same arbitrat\$4	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 11:08
-	6	(cluster or partition) and (node same (vote or priority or weight) with (application or program) same arbitrat\$4)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 11:10
-	34	(cluster or partition) and ((vote or priority or weight) with (application or program) same arbitrat\$4)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 11:14
-	258	(cluster or partition) and ((vote or priority or weight) with (application or program) same member\$4)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 11:14
-	53	(cluster or partition) and ((vote or priority or weight) with (application or program) same membership)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 11:15
-	5	(cluster or partition) and ((vote or priority or weight) with (application or program) same membership)	USPAT	2004/08/19 11:20
-	9	(cluster or partition) and ((vote or priority or weight) with (application or program) same member\$4 with (determin\$6 or resolv\$6))	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 11:17
-	19	(cluster or partition) same ((vote or priority or weight) with (application or program) with (calculat\$5 or determin\$6 or identify\$4))	USPAT	2004/08/19 11:21
-	0	partition adj in adj space	USPAT	2004/08/19 11:22
-	1	partition-in-space	USPAT	2004/08/19 11:22
-	16	("4564903"   "4843541"   "5220654"   "5257368"   "5257379"   "5301323"   "5317739"   "5473773"   "5526484"   "5530860"   "5561809"   "5564040"   "5675739"   "5706432"   "5881284"   "5896520").PN.	USPAT	2004/08/19 11:25
-	11	6192401.URPN.	USPAT	2004/08/19 11:28
-	11	6192401.URPN.	USPAT	2004/08/19 11:34
-	37	("5280627"   "5404527"   "5553239"   "5555375"   "5659748"   "5673384"   "5727206"   "5754821"   "5781910"   "5828876"   "5828889"   "5828961"   "5835784"   "5892913"   "5893086"   "5909540"   "5917998"   "5918229"   "5927050"   "5940838"   "5946686"   "5948109"   "5974547"   "5996075"   "5999712"   "5999978"   "6014669"   "6108699"   "6108781"   "6192401"   "6301462"   "6311217"   "6314526"   "6360331"   "6363495"   "6427163"   "6438705"   "2001/0014097").PN.	USPAT	2004/08/19 11:35
-	67	Oracle adj Parallel adj Server	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 11:49

-	38	Oracle adj Parallel adj Server same (cluster or partition)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 11:49
-	17	Oracle adj Parallel adj Server same (cluster or partition)	USPAT	2004/08/19 11:49
-	11	6272544.URPN.	USPAT	2004/08/19 13:54
-	11	6272544.URPN.	USPAT	2004/08/19 13:55
-	6	6279032.URPN.	USPAT	2004/08/19 14:46
-	193	(cluster or partition) same (node) with weight\$2	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 14:58
-	101	(cluster or partition) same (node) with weight\$2	USPAT	2004/08/19 15:16
-	84	((cluster or partition) same (node) with weight\$2) and ((@ad < "19990528") or (@prad < "19990528") or (@rlad < "19990528"))	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 15:06
-	914	(dynamic\$4 or run adj time) with (creat\$4 or generat\$4) with (class)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 15:13
-	192	(dynamic\$4 or run adj time) with (creat\$4 or generat\$4) adj2 (class)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 15:13
-	320	(dynamic\$4 or run adj time) with (creat\$4 or generat\$4) near2 (class)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 15:13
-	278	(dynamic\$4 or run adj time) near5 (creat\$4 or generat\$4) near2 (class)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 15:13
-	3	(dynamic\$4 or run adj time) near5 (creat\$4 or generat\$4) near2 (class) with generic\$4	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 15:14
-	2	("5481718").PN.	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/08/19 15:14
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[Efficient Support for P-HTTP in Cluster-Based Web Servers - Aron, Druschel, Zwaenepoel \(1999\) \(Correct\)](#)  
 (10 citations)

of HTTP/1.1 requests among the back-end **nodes** of a **cluster** server. A trace-driven simulation  
[www.cs.rice.edu/~aron/papers/phttp-lard.ps](http://www.cs.rice.edu/~aron/papers/phttp-lard.ps)

[Using Constraints To Achieve Stability In Automatic Graph... - Böhringer, Paulisch \(1990\) \(Correct\)](#)

1 INTRODUCTION Graphs, consisting of a set of **nodes** and a set of edges, are one of the most  
 B" or "node C is the top neighbor of node D" Clusters: Gather a group of **nodes** together to a "cluster"  
[www.ee.washington.edu/faculty/karl/Publications/PS/SIGCHI90.ps.gz](http://www.ee.washington.edu/faculty/karl/Publications/PS/SIGCHI90.ps.gz)

[Correction of a Memory Management Method for Lock-Free Data.. - Michael, Scott \(1995\) \(Correct\) \(7 citations\)](#)

care. Many lock-free algorithms require deleted **nodes** not to be reused until no active pointers point  
[hypatia.dcs.qmw.ac.uk/data/edu/cs.rochester.edu/systems/95.tr599.Memory\\_management\\_for\\_lock-free\\_data\\_structures.ps.gz](http://hypatia.dcs.qmw.ac.uk/data/edu/cs.rochester.edu/systems/95.tr599.Memory_management_for_lock-free_data_structures.ps.gz)

[The Application Of The Supercondensed Tlm Node To... - Trenkic.. \(Correct\)](#)

Limited The Application Of The Supercondensedtlm Node To Propagation Problems In Inhomogeneous  
[nmle.eee.nott.ac.uk/~vmt/preprints/compel95.ps.gz](http://nmle.eee.nott.ac.uk/~vmt/preprints/compel95.ps.gz)

[Surface Brightness Evolution of Cluster and Field Galaxies - Schade \(Correct\)](#)

Surface Brightness Evolution of **Cluster** and Field Galaxies DavidSchade 1 National  
[www.dao.nrc.ca/science/preprint/97/9702.ps.gz](http://www.dao.nrc.ca/science/preprint/97/9702.ps.gz)

[A Unified Network-based Approach for Online Recognition of... - Lee, Kim \(Correct\)](#)

a word network, a path spanning from the initial **node** to the final **node**, possibly with a number of  
[ai.kaist.ac.kr/~joony/ps/IWFHR\\_96.ps](http://ai.kaist.ac.kr/~joony/ps/IWFHR_96.ps)

[Performance Evaluation and Modeling of MPI Communications ... - Folino, Spezzano, Talia \(Correct\)](#)

computer. It consists of Sparc based processing **nodes** running the Solaris operating system on each  
 operating system on each **node**, so it resembles a **cluster** of workstations connected by a fast network.  
[isi-cnr.deis.unical.it:1080/~talia/hpcn98.ps](http://isi-cnr.deis.unical.it:1080/~talia/hpcn98.ps)

[The Beehive Cluster System - Aman Singla \(Correct\)](#)

Box 2 CPUs 1 CPU threads in a single process parent **node** Interconnection Network Figure 1: The Beehive  
 multiple units of CPU scheduling called lwp (light-weight process) within the same address space. It also  
 The Beehive **Cluster** System Aman Singla Umakishore Ramachandran  
[www.cc.gatech.edu/computing/Architecture/Beehive/./papers/beehive.ps.gz](http://www.cc.gatech.edu/computing/Architecture/Beehive/./papers/beehive.ps.gz)

[Identification of a high redshift cluster in the field of... - Pelló, Miralles \(1996\) \(Correct\)](#)

redshift intervals have been cumulated with a **weight** of 1. A significant excess of galaxies at a mean  
 20.3.1996 Identification of a high redshift **cluster** in the field of Q2345007 through deep BRIJK'  
[www.astr.tohoku.ac.jp/~miralles/AA\\_2345\\_3nov95.ps.gz](http://www.astr.tohoku.ac.jp/~miralles/AA_2345_3nov95.ps.gz)

[Using PVM 3.0 to Run Grand Challenge Applications on... - Dongarra, Geist.. \(1992\) \(Correct\)](#)

This is the ability to run PVM applications on the **nodes** of several different distributed memory  
 is to exploit the aggregate power and memory of **clusters** of computers sitting on local area networks.  
[ftp.netlib.org/ncwn/siam93-pvmgc.ps](http://ftp.netlib.org/ncwn/siam93-pvmgc.ps)

[Topic Detection and Tracking Pilot Study - Allan, Carbonell, Doddington.. \(1998\) \(Correct\) \(3 citations\)](#)

a speech recognizer with 100 underlying "single **node**" models (corresponding to the topics) each of  
 result from adding the feature and adjusting its **weight** to the best value. After calculating the gain of  
 is to group the stories in the study corpus into **clusters**, where each **cluster** represents an event and  
[www.cs.cmu.edu/~yiming/papers.yy/tdt1-final-report.ps](http://www.cs.cmu.edu/~yiming/papers.yy/tdt1-final-report.ps)

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 heuristic, ii) Lowest-ID heuristic, and (iii) **Node-Weight** heuristic. The Lowest-ID and the  
 Preprint 0 (2001) 1 WCA: A Weighted **Clustering** Algorithm for Mobile Ad hoc Networks  
 In this paper, we propose an on-demand distributed **clustering** algorithm for multi-hop packet radio  
[crewman.uta.edu/~mainak/papers/cluster.ps](http://crewman.uta.edu/~mainak/papers/cluster.ps)

[A Weight Based Distributed Clustering Algorithm for.. - Chatterjee, Das, Turgut \(1970\)](#) [\(Correct\)](#) [\(3 citations\)](#)  
 heuristic (ii) Lowest-ID heuristic and (iii) **Node-Weight** heuristic. In the assumed graph model of the  
 A Weight Based Distributed **Clustering** Algorithm for Mobile Ad hoc Networks  
 Abstract. In this paper, we propose a distributed **clustering** algorithm for a multi-hop packet radio  
[crewman.uta.edu/~mainak/papers/hipc00.ps](http://crewman.uta.edu/~mainak/papers/hipc00.ps)

[An On-Demand Weighted Clustering Algorithm \(WCA\) for Ad.. - Chatterjee, Das, Turgut \(2000\)](#) [\(Correct\)](#) [\(1 citation\)](#)  
 heuristic (ii) Lowest-ID heuristic and (iii) **Node-Weight** heuristic. In the assumed graph model of the  
 An On-Demand Weighted **Clustering** Algorithm (WCA) for Ad hoc Networks Mainak  
 Abstract-We consider a multi-**cluster**, multi-hop packet radio network architecture for  
[crewman.uta.edu/~mainak/papers/globecom00.ps](http://crewman.uta.edu/~mainak/papers/globecom00.ps)

[A New Heuristic for Vehicle Routing with Narrow Time Windows - Hamacher, Moll \(1996\)](#) [\(Correct\)](#) [\(1 citation\)](#)  
**clustering** procedure where a tree with multiple **node weights** is divided into subtrees. Upper bounds  
 planned stops. The algorithm is based on a **clustering** procedure where a tree with multiple node  
 The algorithm is divided into two parts. In the **clustering** step the customers are partitioned into  
[ftp.mi.uni-koeln.de/pub/paper/postscript/zpr96-239.ps](http://ftp.mi.uni-koeln.de/pub/paper/postscript/zpr96-239.ps)

[Cluster Computing 5, 193-204, 2002 - Wca Weighted Clustering \(2002\)](#) [\(Correct\)](#)  
 heuristic, ii) Lowest-ID heuristic, and (iii) **Node-Weight** heuristic. The Lowest-ID and the  
**Cluster** Computing 5, 193-204, 2002 2002 Kluwer  
 Manufactured in The Netherlands. WCA: A Weighted **Clustering** Algorithm for Mobile Ad Hoc Networks  
[crewman.uta.edu/~turgut/published\\_papers/WCA-2002.pdf](http://crewman.uta.edu/~turgut/published_papers/WCA-2002.pdf)

[Adaptive Load Distribution in Strong Dynamic Heterogeneous Systems - Rips](#) [\(Correct\)](#)  
 same way using the average computation speed, a **node weight** is determined. Edge weight and **node weight** can  
 speed, a **node weight** is determined. Edge weight and **node weight** can be defined as: Definition 1 Let  
 (FCP) which runs on heterogeneous workstation **clusters** using PVM (Parallel Virtual Machine [7])The  
[www.hlr.de/people/rips/Paper/mpcs96.ps](http://www.hlr.de/people/rips/Paper/mpcs96.ps)


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Yuanyuan Zhou, Peter M. Chen, Kai Li

May 1999 **Proceedings of the 13th international conference on Supercomputing**Full text available:  [pdf\(1.45 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**2** [Analysis and implementation of software rejuvenation in cluster systems](#)

Kalyanaraman Vaidyanathan, Richard E. Harper, Steven W. Hunter, Kishor S. Trivedi

June 2001 **ACM SIGMETRICS Performance Evaluation Review , Proceedings of the 2001 ACM SIGMETRICS international conference on Measurement and modeling of computer systems**, Volume 29 Issue 1Full text available:  [pdf\(983.05 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)


Several recent studies have reported the phenomenon of "software aging", one in which the state of a software system degrades with time. This may eventually lead to performance degradation of the software or crash/hang failure or both. "Software rejuvenation" is a proactive technique aimed to prevent unexpected or unplanned outages due to aging. The basic idea is to stop the running software, clean its internal state and restart it. In this paper, we discuss software rejuvenation as applied to ...

**3** [Cluster-based scalable network services](#)

Armando Fox, Steven D. Gribble, Yatin Chawathe, Eric A. Brewer, Paul Gauthier

October 1997 **ACM SIGOPS Operating Systems Review , Proceedings of the sixteenth ACM symposium on Operating systems principles**, Volume 31 Issue 5Full text available:  [pdf\(2.42 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**4** [Bayeux: an architecture for scalable and fault-tolerant wide-area data dissemination](#)

Shelley Q. Zhuang, Ben Y. Zhao, Anthony D. Joseph, Randy H. Katz, John D. Kubiatowicz

January 2001 **Proceedings of the 11th international workshop on Network and operating systems support for digital audio and video**Full text available:  [pdf\(272.26 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The demand for streaming multimedia applications is growing at an incredible rate. In this paper, we propose Bayeux, an efficient application-level multicast system that scales to arbitrarily large receiver groups while tolerating failures in routers and network links. Bayeux also includes specific mechanisms for load-balancing across replicate root nodes and more efficient bandwidth consumption. Our simulation results indicate that Bayeux



maintains these properties while keeping transmi ...

5 BuddyCache: high-performance object storage for collaborative strong-consistency applications in a WAN

Magnus E. Bjornsson, Liuba Shrira

November 2002 **ACM SIGPLAN Notices , Proceedings of the 17th ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications**, Volume 37 Issue 11

Full text available:  [pdf\(269.18 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)


Collaborative applications provide a shared work environment for groups of networked clients collaborating on a common task. They require strong consistency for shared persistent data and efficient access to fine-grained objects. These properties are difficult to provide in wide area networks because of high network latency. *BuddyCache* is a new transactional caching approach that improves the latency of access to shared persistent objects for collaborative strong-consistency applications i ...

**Keywords:** cooperative caching, fault-tolerance, fine-grain sharing, object storage systems, transactions, wide-area network

6 Industrial sessions: middle-tier caching: Middle-tier database caching for e-business

Qiong Luo, Sailesh Krishnamurthy, C. Mohan, Hamid Pirahesh, Honguk Woo, Bruce G. Lindsay, Jeffrey F. Naughton

June 2002 **Proceedings of the 2002 ACM SIGMOD international conference on Management of data**


Full text available:  [pdf\(1.20 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

While scaling up to the enormous and growing Internet population with unpredictable usage patterns, E-commerce applications face severe challenges in cost and manageability, especially for database servers that are deployed as those applications' backends in a multi-tier configuration. Middle-tier database caching is one solution to this problem. In this paper, we present a simple extension to the existing federated features in DB2 UDB, which enables a regular DB2 instance to become a DBCache wi ...

7 Managing energy and server resources in hosting centers

Jeffrey S. Chase, Darrell C. Anderson, Prachi N. Thakar, Amin M. Vahdat, Ronald P. Doyle

October 2001 **ACM SIGOPS Operating Systems Review , Proceedings of the eighteenth ACM symposium on Operating systems principles**, Volume 35 Issue 5


Full text available:  [pdf\(1.61 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Internet hosting centers serve multiple service sites from a common hardware base. This paper presents the design and implementation of an architecture for resource management in a hosting center operating system, with an emphasis on *energy* as a driving resource management issue for large server clusters. The goals are to provision server resources for co-hosted services in a way that automatically adapts to offered load, improve the energy efficiency of server clusters by dynamically res ...

8 Parallel and distributed systems and networking: A parallel index for semistructured data

Brian F. Cooper, Neal Sample, Moshe Shadmon

March 2002 **Proceedings of the 2002 ACM symposium on Applied computing**

Full text available:  [pdf\(638.30 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)


Database systems are increasingly being used to manage semistructured data, which may not have a fixed structure or set of relationships between data items. Indexes which use tree structures to manage semistructured data become unbalanced and difficult to parallelize due to the complex nature of the data. We propose a mechanism by which an

unbalanced *vertical* tree is managed in a balanced way by additional layers of *horizontal* index. Then, the vertical tree can be partitioned among ...

9 Session III: Mobility Management in multimedia networks: Mobility support in unified communication networks

Helen J. Wang, Randy H. Katz

July 2001 **Proceedings of the 4th ACM international workshop on Wireless mobile multimedia**

Full text available:  pdf(1.11 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Rapid advances in communication networks and device technologies have enabled people with powerful means of communications. It is common for any individual to be associated with a number of heterogeneous communication devices (such as phones, pagers, PDAs) or a variety of applications (such as e-mail, instant messaging, or chat-rooms). This phenomenon has spurred a great demand for *unified communication* [20] services which integrate one's various communication mechanisms in a meaningful a ...

10 Fair queuing for aggregated multiple links

Josep M. Blanquer, Banu Özden

August 2001 **ACM SIGCOMM Computer Communication Review , Proceedings of the 2001 conference on Applications, technologies, architectures, and protocols for computer communications**, Volume 31 Issue 4

Full text available:  pdf(184.49 KB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

11 Tomography: Tomography-based overlay network monitoring

Yan Chen, David Bindel, Randy H. Katz

October 2003 **Proceedings of the 2003 ACM SIGCOMM conference on Internet measurement**

Full text available:  pdf(259.22 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)





Overlay network monitoring enables distributed Internet applications to detect and recover from path outages and periods of degraded performance within seconds. For an overlay network with  $n$  end hosts, existing systems either require  $O(n^2)$  measurements, and thus lack scalability, or can only estimate the latency but not congestion or failures. Unlike other network tomography systems, we characterize end-to-end losses (this extends to any additive metrics, including latency) rather than ...

**Keywords:** network measurement and monitoring, network tomography, numerical linear algebra, overlay networks

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